

AMENDMENTS TO THE CLAIMS

1 1. (original) A flexible circuit comprising:

2 a substrate having a plane;

3 a flexible and extensible structure formed within said substrate and co-planar with
4 said substrate; and

5 wherein said structure is adapted to be extended out of said plane by a distance
6 greater than a maximum lateral dimension of said structure.

1 2. (currently amended) The flexible circuit according to Claim 1 further comprising

2 an insulated pathway formed on said structure.

1 3. (original) The flexible circuit according to Claim 2, wherein said pathway is a

2 capillary for transferring a fluid.

1 4. (withdrawn) The flexible circuit according to Claim 2, wherein said pathway is an

2 electrical lead for transferring an electronic signal.

1 5. (withdrawn) The flexible circuit according to Claim 2, wherein said pathway is an

2 electrical lead for transferring an electrical signal.

1 6. (withdrawn) The flexible circuit according to Claim 2, wherein said pathway is an

2 optical fiber for transferring an optical signal.

1 7. (withdrawn) The flexible circuit according to Claim 6, wherein bending radii of

2 said optical fiber are large enough to prevent substantial optical loss from said optical fiber.

1 8. (original) The flexible circuit according to Claim 1, wherein said structure is a
2 spiral.

1 9. (original) The flexible circuit according to Claim 8, wherein said spiral is an
2 Archimedes spiral.

1 10. (original) The flexible circuit according to Claim 8, wherein said spiral is a
2 parabolic spiral.

1 11. (original) The flexible circuit according to Claim 8, wherein said spiral is a
2 polygonal spiral.

1 12. (original) The flexible circuit according to Claim 11, wherein said spiral is one of
2 a square spiral, a triangular spiral, a pentagonal spiral and a hexagonal spiral.

1 13. (original) The flexible circuit according to Claim 1, wherein said structure has
2 geometric features selected from a group comprising spiral, bend, curve, twist, turn, curl, loop, u-
3 turn and zig-zag.

1 14. (currently amended) The flexible circuit according to Claim 1, wherein said
2 structure is defined by dashed perforations.

1 15. (original) The flexible circuit according to Claim 1, wherein said structure
2 comprises a boss for receiving a force to extend said structure out of said plane.

1 16. (currently amended) The flexible circuit according to Claim 1 further comprising
2 at least a first insulated pathway and a second insulated pathway.

1 17. (currently amended) A flexible circuit comprising:
2 a substrate having a plane;
3 a flexible and extensible structure formed within said substrate and co-planar with
4 said substrate, said flexible and extensible structure is adapted to be extended out of said plane
5 by a distance greater than a maximum lateral dimension of said structure; and
6 an insulated pathway on said structure.

1 18. (currently amended) The flexible circuit according to Claim 17, wherein said
2 insulated pathway is a capillary for transferring a fluid.

1 19. (withdrawn) The flexible circuit according to Claim 17, wherein said pathway is
2 an electrical lead for transferring an electronic signal.

1 20. (withdrawn) The flexible circuit according to Claim 17, wherein said insulated
2 pathway is an optical fiber for transferring an optical signal.

1 21. (withdrawn) The flexible circuit according to Claim 20, wherein bending radii of
2 said optical fiber are large enough to prevent substantial optical loss from said optical fiber.

1 22. (original) The flexible circuit according to Claim 17, wherein said structure is a
2 spiral.

1 23. (previously presented) The flexible circuit according to Claim 22, wherein said
2 spiral is an Archimedes spiral.

1 24. (original) The flexible circuit according to Claim 22, wherein said spiral is a
2 parabolic spiral.

1 25. (original) The flexible circuit according to Claim 22, wherein said spiral is a
2 polygonal spiral.

1 26. (original) The flexible circuit according to Claim 25, wherein said spiral is one of
2 a square spiral, a triangular spiral, a pentagonal spiral and a hexagonal spiral.

1 27. (original) The flexible circuit according to Claim 17, wherein said structure has
2 geometric features selected from a group comprising spiral, bend, curve, twist, turn, curl, loop, u-
3 turn and zig-zag.

1 28. (currently amended) The flexible circuit according to Claim 17, wherein said
2 structure is defined by dashed perforations.

1 29. (previously presented) The flexible circuit according to Claim 17, wherein said
2 structure comprises a boss for receiving a force to extend said structure out of said plane.

1 30. (currently amended) The flexible circuit according to Claim 17 further comprising
2 a second insulated pathway on said structure.

1 31–36. (cancelled)

1 37. (currently amended) A flexible circuit comprising:
2 a substrate having a plane;

3 a flexible and extensible structure formed within said substrate and co-planar with
4 said substrate;
5 a capillary for transferring fluid on said structure: and
6 wherein said structure is adapted to be extended substantially perpendicular to
7 said plane within the region defined by said plane.

1 38. (currently amended) The flexible circuit according to Claim 37 further comprising
2 an insulated pathway formed on said structure.

1 39. (previously presented) The flexible circuit according to Claim 37, wherein said
2 structure is a spiral.